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(54) Title: METHODS OF IDENTIFYING IMMUNOREGULATORY AGENTS, IMMUNOREGULATORY AGENTS, AND USES THEREOF

(57) **Abstract:** The present invention provides methods of identifying a substance that down-regulates or up-regulates an immune response and kits used for the identification methods. A method of this invention comprises detecting a substance that inhibits or enhances the interaction between CD26 and caveolin-1. Another method comprises detecting a substance that inhibits or enhances the interaction between caveolin-1 and Tollip. Still another method comprises detecting a substance that inhibits or enhances the interaction among caveolin-1, Tollip, and IRAK-1. The present invention also relates to immunoregulatory agents comprising a substance that down-regulates an immune response, such as siRNA against caveolin-1 or Tollip. The invention further provides immunoregulatory agents comprising a substance that up-regulates an immune response. These agents are useful for treating inflammatory diseases, autoimmune diseases, or other immune-mediated disorders.